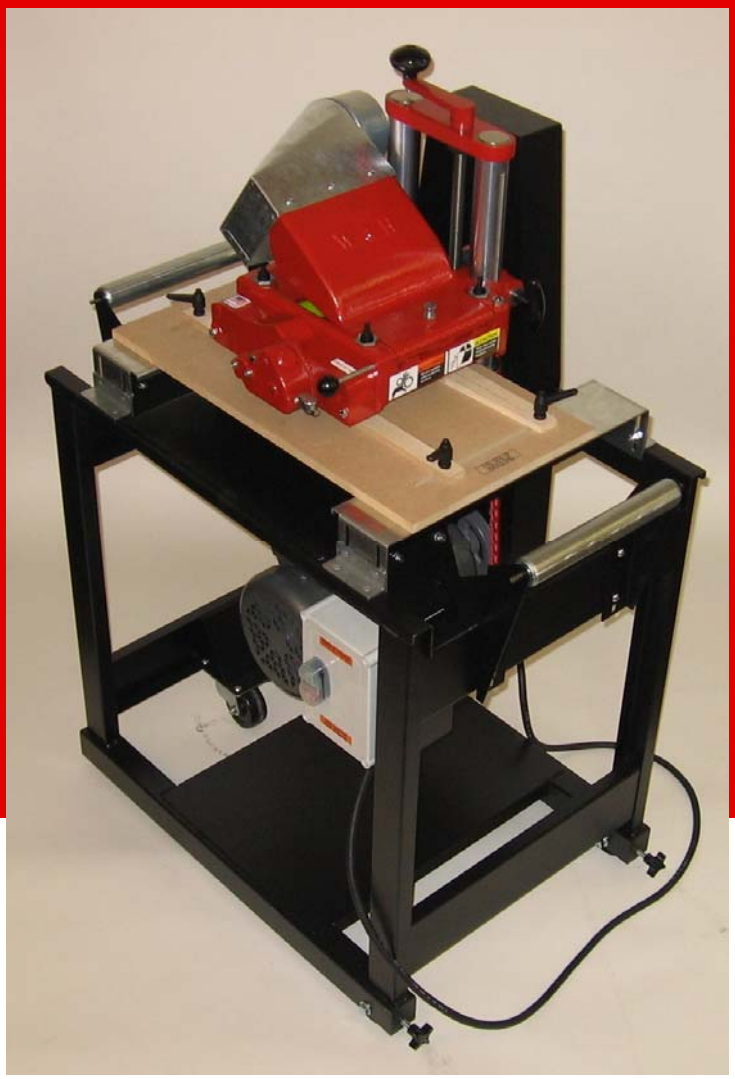
THE W&H MOLDER OPERATORS MANUAL



Shown with optional GS1 guide system

Multi-pass version of W&H Molder

www.williamsnhussey.com

OUR PLEDGE TO YOU

The W&H Molder is warranted for 7 years. Such a long warranty displays our confidence that our product is built to last. Expert advice is easy to obtain. by calling our toll-free number. We can help you maintain your W&H Molder in excellent condition.

The W&H has been a proven design since 1955. This machine is superior to all others in its class, molding and planing faster, easier, and with greater precision.

The machine is compact and maneuverable in the shop or on the job site. The W&H Molder is also extremely durable, and can take years of hard use. Knife changing is so simple that it can be perfectly done in about two minutes, which allows you to quickly get back to molding or planing.

The machine is manufactured in New Hampshire by people who take pride in making a superior product. We welcome comments and observations from you on any aspect of the machine and what you are making with it.

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Complete Revision 6/91
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6/97
3/03
9/03
8/06

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ASSEMBLY INSTRUCTIONS

Tools needed

Wrench 7/16”----------Philips screw driver
Wrench ½”----------Pliers
Wrenches 9/16” (2)--------Razor knife
Blade screw driver---------Wire stripper/crimper

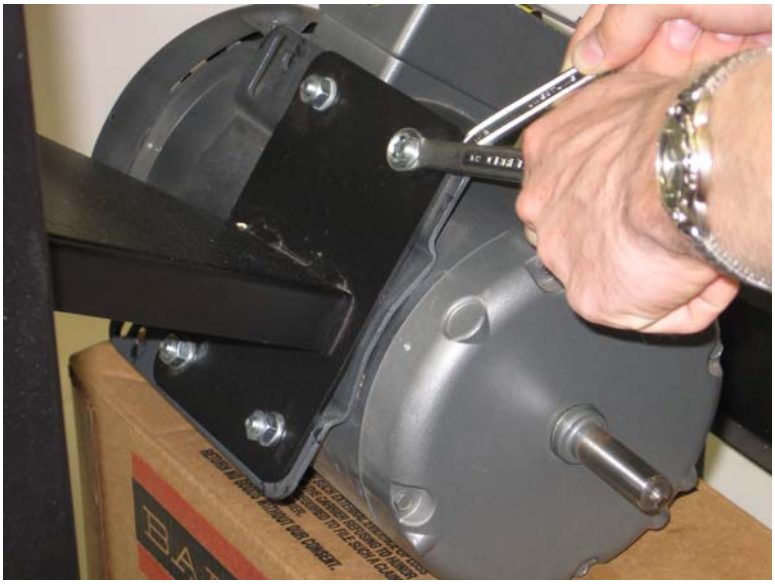
Approximate time to assemble machine package is 3 hours.

Place solid wheels in the channel of the bottom of the roller stand. Insert the 3/8”x 2 ¼” axle bolts through the holes provided.

Install the flat washer, lock washer, nut and tighten.

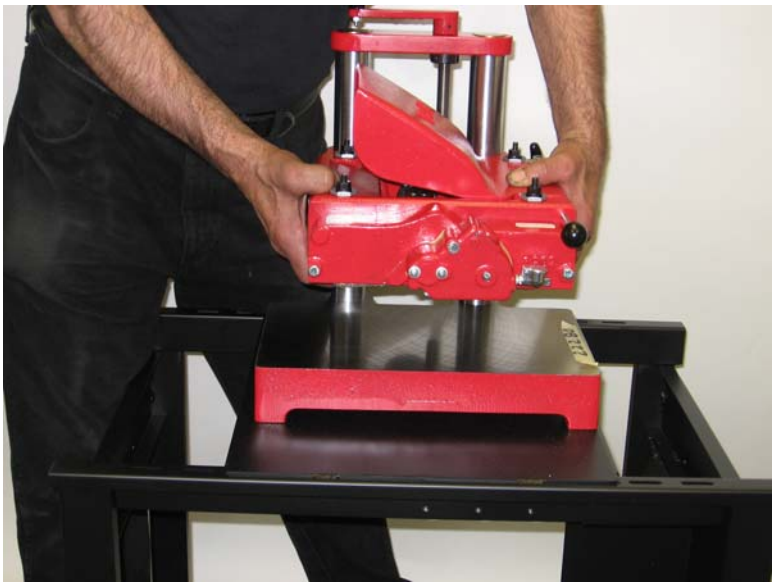
Install brake knobs in threaded insert on end of the stand.

Mount castor wheel on its base with (4) 1/4”x 5/8” round head machine screws, lock washers, and nuts.

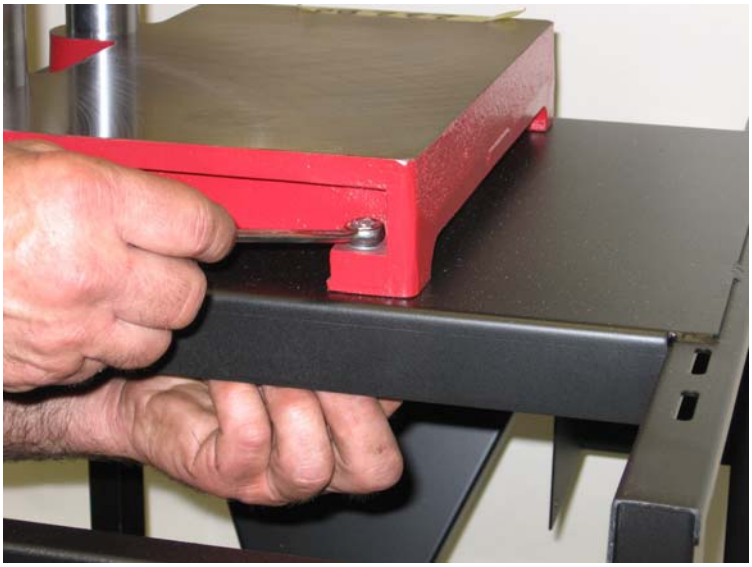


Mount the motor on the mount with (4) 5/16” x ¾” long bolts, flat washers, lock washers and nuts. ***Do not tighten yet***. The motor is mounted with the shaft end in line with the cut out for the belt in the machine mounting area.

Mount the pulley on the motor shaft

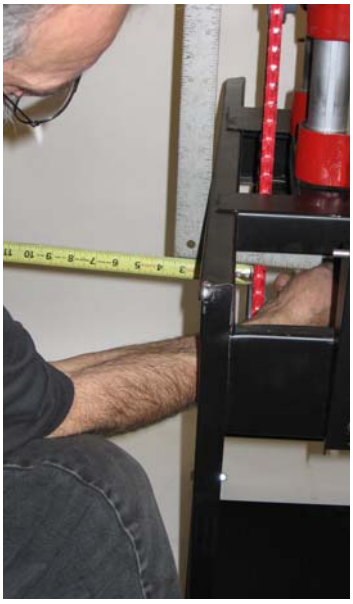


Place the machine on the stand with the pulley side of the machine over the belt cut out area in the stand.



Bolt the machine base to the stand using (4) ¼ x 1 ½” long hex head bolts and lock washers. ***Use the nuts that held the machine to its shipping pallet.***

Install the belt from the machine to the motor.

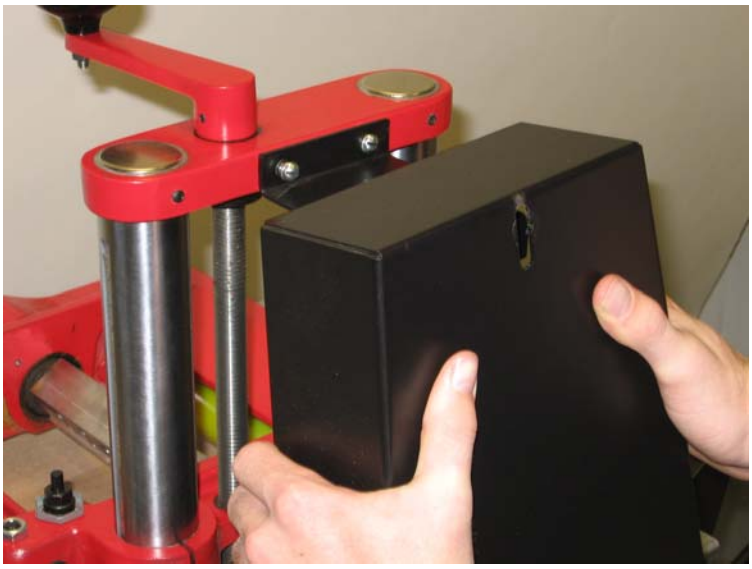


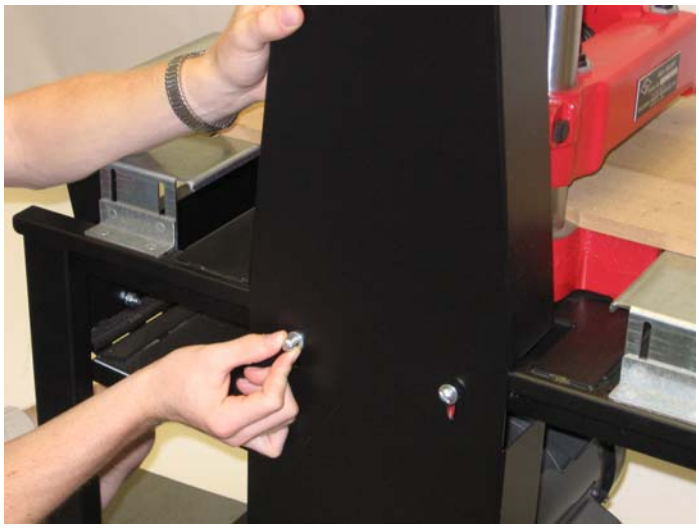
Align the belt so that the belt travels in a straight line from one pulley to the other.

Offset the motor within the clearance of the elongated slots to find a running position that puts the motor on the same plane as the bed of the machine

Install the belt guard bracket. Use (2) 10-24 x ½" screws and lock washers.

Take the belt guard and mount it over the top of the bracket and just start a ¼" x 5/8" round head screw with a flat washer in threaded hole in the bracket.

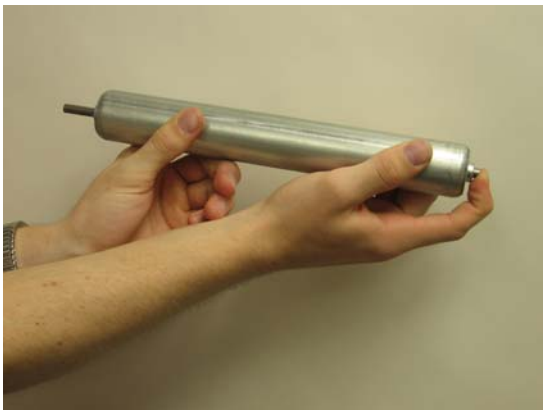


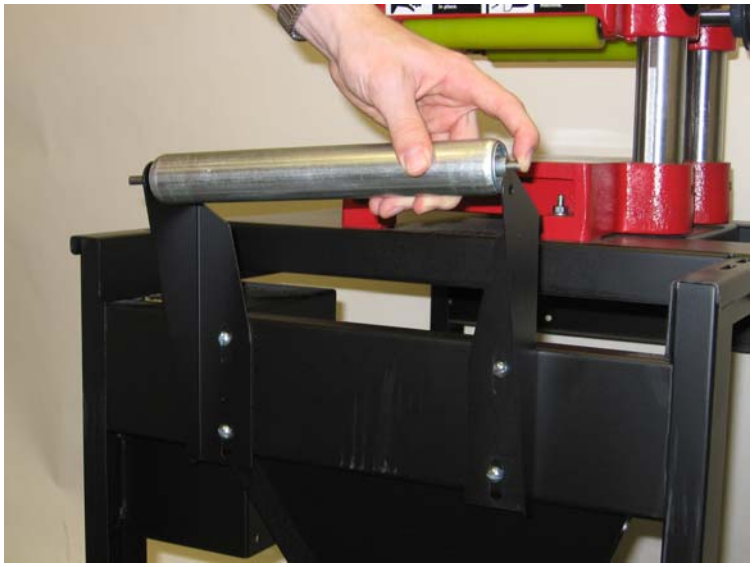


Lift the guard slightly and start the (2) lower ¼"x 5/8" round head screws with flat washers. Tighten all three guard screws

Mount the vertical roller support brackets in pairs, left and right hand on both ends of the stand. Use ¼”x 5/8” long round head screws, lock washers and nuts.

The rollers are spring loaded. One end depresses to allow you to engage the roller in its set of brackets.





Install the two external stock rollers.

To mount the switch, align the (4) holes in the back of the switch box to the (4) in the stand mounting box. Partially start all four screws then tighten them evenly. ***Be careful not to over tighten the screws.***

Strip back about 6” of cord casing on the 3’ wire that will go to the motor, and about 1 ½” of cord casing on the 6’ cord that will have the power plug (not provided) installed on it.

Install the cord connector to the motor and insert the cord so that the casing is clamped in the connector. Now follow the wiring instructions.

WIRING INSTRUCTIONS

Caution! These instruction are for wiring a **Baldor 2hp motor,** catalogue number L3515, with a specification number 35J 383 2013, 56/56H frame, ***only!***

230 volt wiring instructions (high voltage)

The 230 volt switch is for 230 volt applications only!

There is a wiring diagram on the motor connection box. The following is a word description of this diagram.

1) The 6' cord coming out of the switch goes your power supply connection. Attach a plug (not supplied) that matches you power supply receptacle.

2) The 3' cord coming out of the switch goes to the 2hp motor.

   a) Cut back the outer covering on the cord 6".
   b) Strip off ¾" of insulation of each of the three wires.
   c) Take the cover of the connection box on the motor.
   d) Install the cord connector in the connection box on the motor.
   e) Insert the cord 6" and tighten the connector onto the full cord casing.
   f) Crimp the forked terminal onto the **green** cord wire and place it under the **green screw** in the motor connection box and tighten the screw.
   g) Twist together the **white** wire on the cord to the **blue #1** wire on the motor. Twist a yellow wire nut onto this connection.
   h) Twist the **black** wire on the cord to the **yellow #4** wire on the motor. Twist a yellow wire nut onto this connection.
   i) The motor connection box wires **brown J** and the **black #5** wires are joined to themselves with a yellow wire nut.
   j) The motor connection box wires; **orange #3, red #8, and white #2** are joined to themselves with a yellow wire nut.
   k) Double check your connections and replace the cover. Install your power plug.

115 volt wiring instructions (low voltage)

The 115 volt switch is for 115 volt applications only!

1) Follow the above instructions **through step 2f.** Then proceed with the following instructions.
   a) Connect the incoming **white** cord wire to the **blue #1, orange #3, and red #8** wires in the motor connection box.
   b) Connect the incoming **black** cord wire to the **yellow #4** wire in the motor connection box.
   c) The motor connection box wires; **white #2, brown J and black #5** are joined to themselves with a yellow wire nut.
   d) Double check your connections and replace the cover. Install your power plug.

SAFETY RULES

Your W&H Molder has been designed for maximum safety. However, as with all power tools, there is a possibility of incident or injury to the operator. Therefore, ***it is imperative that this manual is completely read and understood before using***.

Use your W&H Molder with respect and caution. Following stated and inherent safety precautions will considerably lessen the possibility of personal injury. If normal safety measures are not taken or are overlooked, the possibility of incident rises tremendously. These safety measures are simple to follow, and the injuries that could happen are not worth the few minutes saved by ignoring safety.

The W&H Molder was designed for specific applications. ***Do not modify*** or use the machine for any purpose other than what this manual describes as its capabilities. Any modifications or improper use to the Molder-Planer may result in personal injury, and will void the warranty. Please contact us if you are unsure about safety protocol before using the machine.

SAFETY CHECK LIST

DON'T TAKE UNNECESSARY RISKS!

- The Owner's Manual has been read and is understood. Failure to understand the manual can cause either poor performance or injury.
- Safety glasses and respiratory protection are being worn.
- The power source has been disconnected before servicing or changing knives.
- You are wearing footwear that does not slip. This will help you keep proper footing and balance. Always stand beside the machine, never in the way of the in-feed or out-feed areas.
- The switch is off before plugging in machine.
- The knives are kept sharp and clean.
- The machine is kept lubricated.
- All tools are grounded. If an adapter is used to accommodate a two-prong receptacle, it must be attached to a known ground. Do not alter the plug.
- The guards are secured and in working order.
- All adjusting keys and wrenches have been removed before starting.
- The stock has been checked for loose knots, nails, and foreign matter.
- The machine is in, and has been stored in, a dry, clean, well-lit area.

PREPARING TO USE THE MACHINE

1. Disconnect the power source while going through these procedures.

2. Check the oil level. The oil cup should be 1/3 full. This is important because a lack of oil will cause many mechanical problems.

3. Check knives to ensure that the bolts are tight. If molding, set your guides for the stock path through the knife area. If planing, you may or may not wish to set your guides. Many times, they are not needed in planing.

4. ***When molding, the head scale setting must be set to within 3/16" of the height of your stock.*** This setting will provide the proper roller tension. Any other setting further away from the thickness of the stock entering the machine is unacceptable and dangerous. See the molding section for more information.

5. Attach the chip deflector with its pin. Make sure the pin is inserted all the way in until you feel it "catch" on the spring-loaded catch. When detaching the chip deflector, take the pressure off of it by lifting up off of its stop. This will allow for simple removal of the chip deflector.

6. Roll knife arbor by hand with the pulley to ensure the knife area is clear.

7. Do not stand or let others stand in the out-feed area or directly in line with the in-feed of the machine.

8. With the head set in the proper position, tighten the head locking bolt firmly. This is essential for safety and to ensure the machine head will stay where you have set it.

9. **Finally, with the machine off, make sure the stock will make contact with the in-feed roller.**

SPECIFICATIONS FOR THE W&H MOLDER-PLANER

Specifications

- 2HP Baldor Motor
- 7000 RPM Arbor
- 15 FPM Feed Rate *
- Max Profile Depth ¾”
- Max Profile Width 6 ¾”
- Planes 7” Wide
- Min Stock Length 9”
- Min Stock Thickness ¼”
- Max Stock Thickness 8”**
- Working Height 31”
- Overall Height 45”
- Overall Width 20”
- Overall Length 33”
- Weight approx. 200Lb

* There are two optional feed kits available; 11 and 20 FPM

**The crank handle will hit the chip deflector at 6.” For convenient operations at heights of over 6,” the optional crank extension 54-306 is available.

KNIFE CHANGING

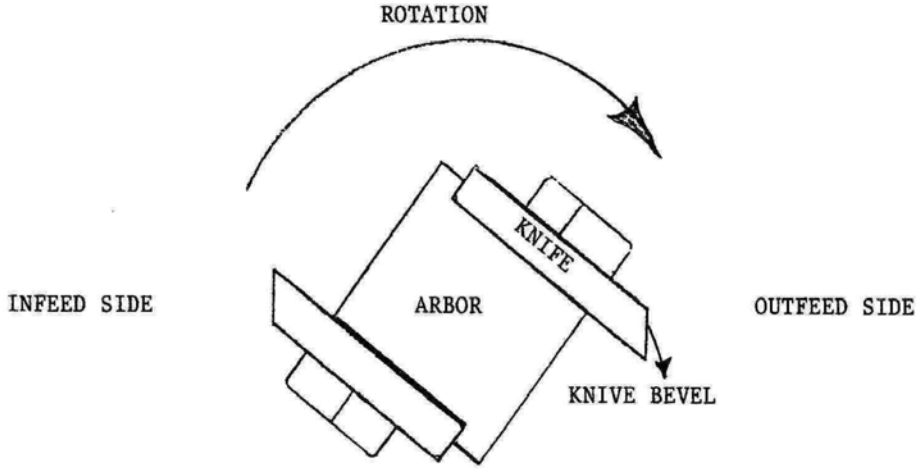
DISCONNECT POWER BEFORE CHANGING KNIVES!

PLANER KNIVES

Remove the chip deflector by first lifting it up and then pulling out the pin. Clean off knives and machine arbor. Set one knife at a time in place against the lip of the arbor. Place the "bevel" of the knife as shown in the illustration below. Tighten the eight bolts securely using a 9/16" wrench. After tightening, double check to see that the knives are snug against the lip.
We do not recommend shimming out planer knives.

MOLDING KNIVES

Clean off knives and machine arbor. Set one knife at a time in place with the bevel edge positioned as shown in the illustration below. Push the knife firmly down against the arbor lip and sideways against the bolts in the direction of the tube side of the machine. Hold secure while tightening the bolts.



VIEW FROM PULLEY SIDE OF MACHINE

GEAR BOX OIL

Check your oil level every day before starting machine, and if running continuously, check the oil every hour. ***The oil cup should be one third full.*** The gear box holds 2 oz. of oil.

We recommend using our W&H Gear Box Oil. A substitute for our oil would be Mobil SHC 634, but W&H Oil is the best option. Any problems caused by not using the proper oil will not be covered by the warranty.

Some minor oil leaking is normal. A serious leak in a new machine is almost always caused by overfilling the gear box. This is not a serious problem though, as the gearbox will eventually purge the excess oil. In an older machine, worn shaft bushings are normally the cause of significant leakage. Replacement of these is relatively simple.

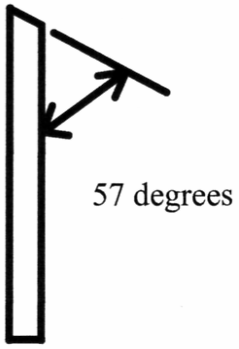
KNIFE SHARPENING

For fast and professional results with minimum edge loss, return your knives to the factory for resharpening. Have your knives resharpened when you first notice some dullness. This gives optimal performance and maximum life span out of the knives.

Molding knives should be surface ground on the face in pairs to preserve the profile and maintain the height of the knife. This is how they are intended to be ground. The profile should never be ground.

Planing knives may be ground on the surface or on the bevel.

Both molding and planing knives have an edge angle of 57 degrees measured off the back of the knife.



The use of dull knives will put a strain on the feed mechanism and will result in your need of a repair. Any problems created due to the use of dull knives are not covered under the warranty.

HOW TO MOLD

1. A **sub-plate** made of knife millable material will be needed on any job where the knife is designed to cut below the bottom of the stock. This type of knife will hit the base of the machine if a sub-plate is not used. An example of this situation would be the molding of half or quarter rounds .

2. If the knife comes close to the base of the machine, such as the bottom knife of any crown or bed moldings, a **sub-plate** should be used to prevent damage in case of accidental depression of the head, which would plunge the knife into the base

3. Our GS1 guide system has a **sub-plate** built into it, including bed extensions, a fixed guide, flex guide, and ratchet handles, all for a very reasonable price. You may fashion a sub plate yourself and clamp it to the machine base. When using a sub-plate, always remember to add its thickness to the stock thickness when setting machine height, and that you still must use some form of stock guiding system in addition to the sub-plate.

4. **Stock height** should be uniform in size and to within 1/32" of finished molding size.

5. Stock width should be uniform and to finished molding size. Saw ripping to width will not make the stock uniform enough **for smooth flow through the guides**, and thus, will not result in a satisfactory molding. We recommend that all stock be planed in both width and height to finished molding size before setting up to do the profile.

6. When **tightening the knives**, push them firmly against the lip and sideways against the bolts in the direction of the tube side of the machine for an exact profile match up. Hold secure while tightening bolts.

7. As you become familiar with the machine and its use, you may want to make some **custom guides** to suit your specific applications.

8. When running a tongue and groove, pre-inspect the stock for cupping and ensure that you can guarantee your stock is uniform in size. Good quality stock is required in order to join the tongue and groove.

9. Some profiles are too deep for use on the W&H Molder. In some cases you can rotate the profile into a flatter position if it will reduce the depth of cut to less than ¾". The "**V-Block**" technique is used in such a case. A knife must be custom made for "V-Block" use.

10. **Set the head height** to within 3/16"of your stock height. This will give you proper roller tension on your molding stock. This is the correct way to mold. It is acceptable to leave 3/16" of the cut for multiple passes. But for safety reasons leave no more than 3/16".

11. On some **extremely deep or wide cuts**, some **prior stock removal** will be required before molding. You may remove this stock using one of the roughing knives found in the Standard Knives Catalog. You may also use a dado blade on a table saw.

12. Failure to **set your head height within 3/16"** of the stock height will create an **extreme safety hazard** in that possibly not enough roller pressure will be applied, or that no roller pressure at all will be applied.

13. **Do not cut a wider stock area** than the knife was designed to cut. This will cause excessive heat in the knife, burn your stock and puts a harmful load on the feed system.

14. **The roll pressure screws are set** at maximum molding pressure from the factory. They are screwed into the head as far as possible and the check nut is tightened.

15. When you use the machine **for planing** you will need to **reduce the roller pressure.** Loosen the pressure screw lock nut and screw out each pressure screw ¼" and retighten the lock nut.

16. **To change the molding knives,** remove the chip deflector by lifting it up and pulling out the pin. Set one knife at a time in place with the bevel edge toward the in-feed end of the machine. Firmly push the knife down against the arbor lip and sideways against the bolts in the direction of the tube side of the machine. Hold secure while tightening bolts.

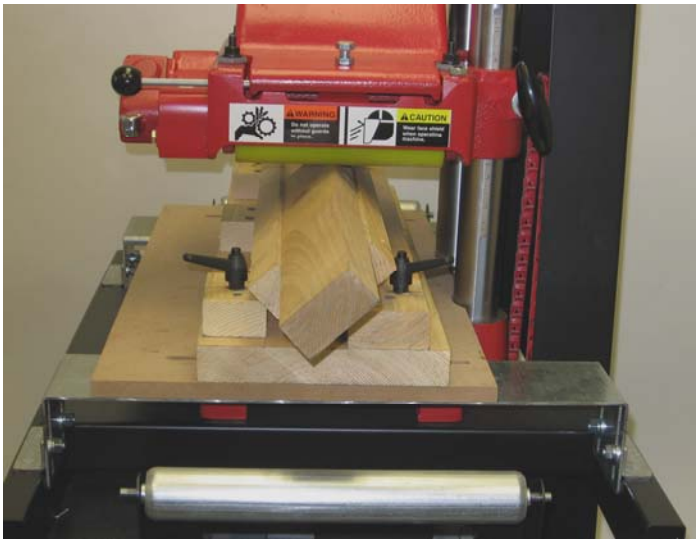
GUIDES

As you become more familiar with the machine and its use, you will want to make wooden **guides to suit specific jobs**.

Mold your bevels or bottom knife cut first when molding bed or crown moldings. You may want to add a key cut as a guiding mechanism for your top profile.

When **planing the edge** of stock, a high, square, relieved guide is needed in order to have the edge reasonably square and to provide stability. The center reliefs are to reduce friction.

Some profiles are too deep to make on the W&H. In some cases you can rotate the profile into a flatter position to effectively reduce the depth of cut. A **"vee block"** guide would be made to guide your stock. The profile knives would have to be custom made to use in this vee block position.



When making **tongue and groove stock**, a serious and detailed approach is needed in order to achieve a uniform fit. Carefully pre-inspect your stock for cupping and warping. You need to plane all your stock to one uniform size.

The guide thickness should be ¼" thinner than your stock or your **roller will scuff on the guides** when the stock has left the machine and the rollers are in their rest positions. When running thin stock you will need to fasten a sub-plate between the guides to maintain a thick enough guide to control your stock.

Always check your knife clearance to the guide. **Clear away any interfering portion** of the guide.

MOLDING PICTURE FRAMES

Decide whether the rabbet or profile cut should be done first. If you are going to make the rabbet on the W&H Molder, do the rabbet first. In order to utilize the W&H Molder for rabbets, a rabbet knife with a depth of cut equivalent to the depth you need should be ordered. If we do not have a standard knife with the depth you seek, we can make a special knife to suit your needs.

ROUND TOP CASINGS
(CONSTANT RADIUS SIZE ARCS)

We manufacture knives with the profile cutting the deepest portion of the cut on the open side of the machine. Notify us when you order a knife if you want the deep side of the cut on the vertical tube side of the machine.

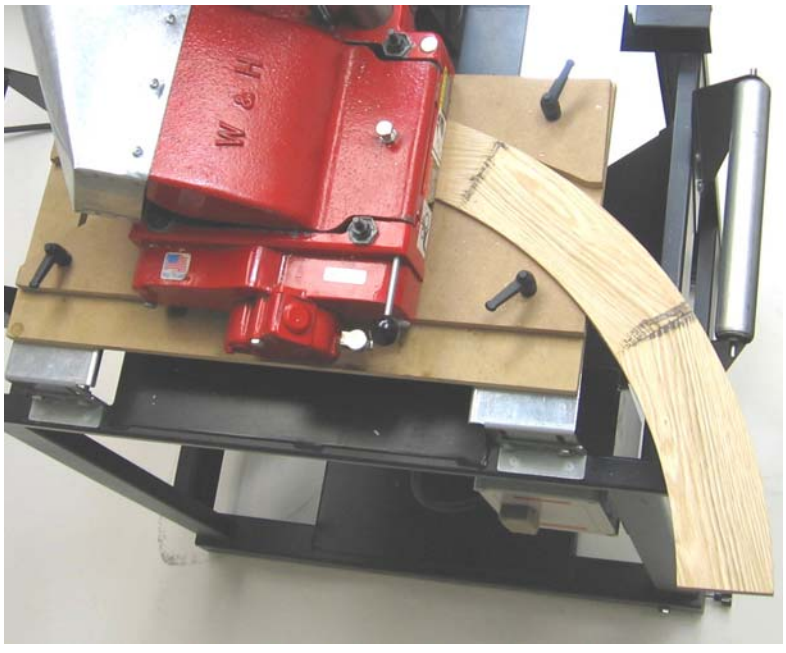
The set up and operation of the W&H machine for a round top molding job is very similar to the straight molding set up. Our EJ92 Elliptical Jig is not needed for a fixed, constant radius.

Stock preparation can be done in many ways. The following is one example.

First determine the angle needed to cut the wood sections in order to stay within the selected radius. Lay out the wood sections by marking the angles while being careful to select cuts for grain structure and color. Then cut the sections and biscuit join and glue them together.

We made a fixture to band saw the inside and outside radii consisting of a pivot bar and bracket. We mounted the pivot bar to the stock on the scrap portion of the inside radius. The pivot bar is drilled with numerous holes to accommodate any radius sizes. You may also want to design a fine adjuster to allow you to make any radius in between your adjusting holes. Make sure the outside radius is cut first.

The guides should be 20” long, which is the length of the GS1 guide system, or 14” long if you are just using the bed of the machine. The guides may be made using the band saw set up. We make one guide for the inside radius and one for the outside radius. We use MDF board.



ROUND TOP SETUP

1. Make sure power supply is disconnected
2. Raise the machine head and set the stock on the bed.
3. Align the stock with molding profile.
4. Lower the head to pinch the stock.
5. Set the guides and clamp them in place.
6. Raise the machine head, remove the stock, and reset the head to within 3/16” of stock size (Don’t forget the sub-plate height if one is used).Ensure that there is no interference in the knife area.

NEVER attempt closed loop molding. It is an unsafe procedure.

RAISED PANELS

All of our panel knives are designed to produce a ¼" tongue. Be sure to select a panel knife based on the finished panel thickness. **A panel must be 9" or more in the direction you are molding** in order to not have the panel come off of one roller before it engages the second roller. When you use **multiple passes** you **must have at least 9" of panel remaining** in the direction of the cut in order to have a least one roller on the panel at all times.

If you desire a different tongue size or have a panel thickness other than ¾" or 5/8," a special knife can be ordered and shipped quickly by W&H.

THE SET UP

1. Disconnect the power supply.
2. Install your knives over toward the tube side of the machine allowing enough room to install your guide.
3. Index the knife arbor so the profile will be seen against the bed. Raise the head to allow the panel to be laid on the bed and to be lined up with the profile visually.
4. Once you have found the proper position for the panel, lower the head so the rollers will put pressure on the panel while butting the guide against the panel. Tighten your guide.
5. Raise the head, pull the panel out of the machine, and lower the head to within 3/16"of the panel height. Rotate the blade arbor by hand to insure nothing is interfering with its rotational path.
6. Mold the panel cross grain ends first. Stand somewhere between the open side and in feed side. **See the picture on the next page.**

RAISED PANEL ISSUES

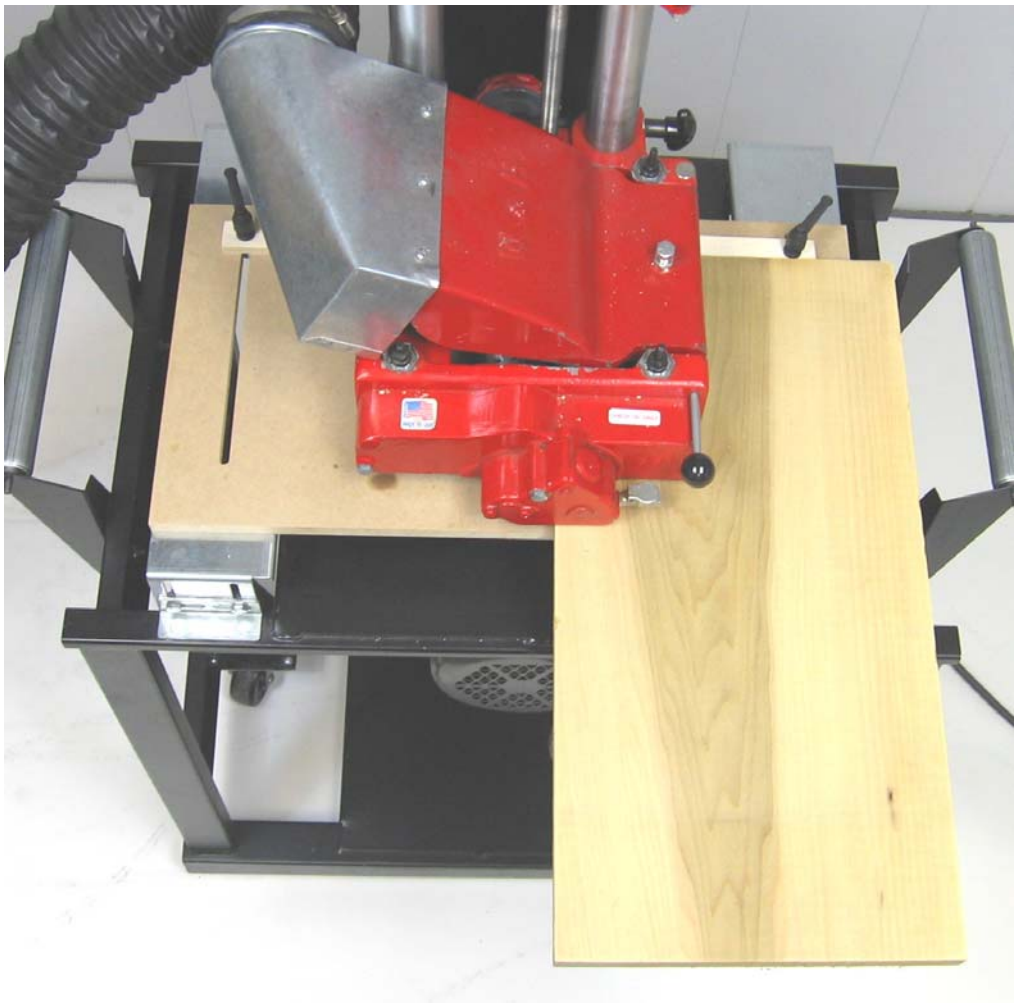
It takes some practice to make a good panel. It is helpful to keep a slight upward pressure on the panel as it is being molded with a steady pressure against the guide.

Because panels are normally larger than the 7" cutting capacity of the machine, the panel must pass beneath the open side of the head. There is approximately 1/32" clearance between the top of the panel and the head of the machine, provided the head is at stock size setting, and not below.

Many users try to create a slightly deeper cut to modify the tongue size or change the profile appearance and end up dragging and pivoting the panel away from the guide path.

The head must be set at the panel thickness and not below it in order to have clearance to pass the panel through the machine in a satisfactory way.

On occasion you may find a light chain imprint on the top of your panel. This mark may be removed when you are finished molding your panel with a thickness planer or sander. Or, you may install a W&H Raised Panel Kit that will eliminate the chain mark entirely.



HOW TO PLANE

CAUTION! When you use the machine as a planer you will need to **back off all four pressure screws ¼"** so that you will not have too much roller tension, or you will risk shearing a pin in the large bronze worm gear.

Measure the thickness of your stock.

The amount of stock that is removable in one pass is dependent on the density of the wood (relative hardness), how wide the cut is, and the moisture content of the stock.

GENERAL GUIDELINES FOR DEPTH OF CUT

THICKNESS	TYPE OF WOOD	DEPTH OF CUT
1"	Poplar	¼"
1"	Red Oak	3/16"
3"	White Pine	3/16"
3"	White Oak	1/8"
6"	Poplar	1/8"
6"	Red Oak	1/16"

See the table of contents section for knife changing and installation.

Loosen the planing head locking knob (54-21). To initially begin planing, set the head position to a height 1/32" less than the dimension of the stock entering the machine. One-third of a turn on the elevating handle will equal 1/32". Tighten the head locking knob.

Make sure the chip deflector is in place and the pin is firmly seated.

Adjust the chip deflector with the P129 screw and the P130 lock nut so that the deflector does **NOT** ride on the stock. Contact between the deflector and stock has the potential to damage either the stock or the machine and cause undesirable results.

Utilize a **high, square, relieved guide** when planing the **edge of stock** to ensure the edge will be reasonably square. A relief in the vertical wall of the guide reduces friction.

CHATTER

Definition: Chatter marks are irregularities in the finish quality of the surface of the wood. They can be evenly spaced or randomly distributed. Simply put, they may be described as “hills and valleys” in the wood surface.

General Causes: These marks are caused by either loosely held stock or by an imbalance in the machine’s mechanical qualities.

What to Check For:

1. Check the belt for irregularities. The most common cause of poor stock finish quality is a rough running belt. Replace the belt. We recommend a “Power Twist” belt, “A” size, 47” long.
2. Make sure you are cutting with the head set at the appropriate height.
3. Keep your knives sharp and in good condition. A dull knife will force intermittent feeding, which causes a mark on the stock.
4. Check for a damaged or an unbalanced pulley.
5. Make sure that each knife and attaching bolt has equal weight on both sides of the arbor.
6. Make sure your head locking bolt is tight while operating the machine.
7. Make sure the machine bed screws holding the vertical tubes are tight.

SNIPE

Definition: Snipe is generally an unwanted undercut in the stock. It generally occurs in the first and last few inches of the stock length. It causes a different height dimension than what was selected for the stock. No molder/planer can completely eliminate snipe.

Causes:

1. The stock may be cupped, warped, or twisted.
2. The stock experiences a change in down pressure as the out-feed roller engages the stock, and when the stock disengages the in-feed roller.
3. The stock may enter or exit the machine on an angle because it is either being fed from a higher or lower source than the bed, or it is exiting to a higher or lower plane.

To minimize snipe

1. Use slightly longer stock than originally intended so as to allow a discard area of stock.
2. Use a jointer to flatten cupped, warped, or twisted stock.
3. Butt stock pieces tight end to end.
4. Put a slight upward pressure on the exposed end of the stock during both the in-feed and out-feed stroke.

FEEDING PROBLEMS

Make sure that power is disconnected before inspecting machine.

SYMPTOM	SOLUTION
The stock stops but the feed-rollers continue to turn.	This is a traction or friction problem. 1) Make sure your stock is not binding in the guides. 2) Make sure the stock is of consistent width. **Saw ripping is inadequate**. 3) Make sure stock is the proper width for the knife profile. 4) Make sure the head is set at the correct height. 5) Check the rollers to see if they have a glossier than normal build-up. Clean the gloss or pitch build up off the rollers. 6) Make sure adequate spring pressure is being applied to the rollers. 7) Check the base or bed for rust or scars. 8) Replace worn rollers.
One roller stops while the other continues to operate.	Check for a loose set screw on one of the two chain sprockets involved with the roller that won't operate.
Both feed rollers turn until you try to engage stock and then both stop.	Check for a broken roll pin in the P108 bronze gear, 54-504 assembly. Check the pin with a paper clip wire. If the wire will not go in one end of the pin and out the other, the pin is broken. The pin is a 1/8" diameter spring tension roll pin 5/8" long.
Neither feed roller will turn even in the absence of stock.	1. Check for a broken fiber drive, P117. 2. Check for a broken primary shaft, P203. 3. Check for a stripped small bronze worm gear, P105, inside the gear box.

PARTS LIST FOR W&H (POWER IN AND OUT FEED)

PART NO.	EDP NO.	*NO. REQ'D*	DESCRIPTION
54-1	10002	1	Base
54-2	10003	1	Head
54-3	10005	1	Chip Deflector
54-4	10007	1	Out feed Swing Arm
54-5	10009	1	Top Bar Brace
54-6	10011	1	Elevating Handle
54-7	10013	1	Elevating Screw Collar
54-8A	10014	1	Plain Tube A
54-8B	10015	1	Slotted Tube B
54-9	80075	1	Crank Knob Screw
54-10	10017	1	Arbor
54-11	10018	1	Elevating Screw
54-14	10022	1	Chip Deflector Axis Pin
54-15A	10023	4	Swing Arm Axis Screw
54-16	10024	2	Swing Arm Stop Pin
54-17	80092	2	Chrome Tube Cap
54-18	80093	1	Bullet Catch Cap
54-19	10025	1	Elevating Handle Knob
54-20	10026	2	Arbor Ball Bearing
54-21	10027	1	Head Locking Handle
54-22	10029	1	Head Locking Screw
54-23	80076	8	Knife Attaching Bolt
54-25	10032	4	Roll Pressure Screw
54-26	10033	4	Roll Pressure Guide
54-28	10034	1	Sheave (Pulley) 2-1/2"
54-29	10035	1	Pulley Guard **for machines with no W&H stand**
54-30	10105	1	Dust Hood–4" Diameter
54-32	80077	1	Scale
54-36	10036	1	Spring Plunger
54-37	10139	4	Spring **for multi-pass machines serial # 22052 and higher**
P-100	10050	1	In-feed Swing Arm
P-101	10052	1	Gear Box Housing
P-104	10057	1	Primary Worm
P-105	10058	1	Primary Worm Gear
P-106	10059	1	Secondary Shaft
P-107	10060	1	Secondary Worm
P-108	10061	1	Secondary Worm Gear
P-110	10063	2	Drive Sprocket
P-111	10065	2	Feed Roll Sprocket
P-112	10066	1	Drive Chain
P-113	10067	2	Oil Retention Plug
P-114	10068	3	Oilite Bushing

PART NO.	EDP NO.	NO. REQ'D	DESCRIPTION
P115	10069	1	Bearing Support Plug
P-116	10070	1	Oil Cup
P-117	80080	1	Fiber Drive Coupling
P-118	80081	1	Retaining Ring
P-120	10073	1	Shaft Spacer
P-122	10074	2	Short Roll Journal
P-123YE	10161	2	Urethane Feed Roll, Yellow - 60
P-123GR	10162	optional	Urethane Feed Roll, Green - 70
P-124	10076	1	In feed Sprocket Journal
P-125	10077	2	Ball Bearing #1601
P-126	10078	1	Ball Bearing #1602
P-127	10079	2	Spacer
P-127A	10080	1	Gear Shaft Spacer
P-128	80006	1	Gear Box Gasket
P-129	80082	1	Chip Deflector Screw
P-130	80007	1	Check Nut
P-137	10085	4	Swing Arm Bushing
P-141	80085	4	Socket Cap Screw
P-143	80088	1	Dowel Pin 1/8" x 1-3/4"
P-202	10092	1	Chain Guard
P-203	10093	1	Primary Shaft
P-209	10094	1	Sprocket Drive Shaft
P-212	10095	1	Long Chain Out feed
P-213	10096	1	Nylon Bushing
P-214	10097	1	Nylon Collar
P-224	10098	1	Journal Out feed
P-239	80084	1	Cap Screw 3-1/2"
P-240	80083	2	Cap Screw 2"
	80090		3/32" x ½" Roll Pin
	80094		1/8" x 5/8" Roll Pin
	80096		3/32" x 5/8" Roll Pin
	81000		30 Pitch Short Chain
	81001		56 Pitch Long Chain
	81002		25B12A Modified Sprocket (11' Kit)

THREAD LOCKING INFORMATION

A medium strength thread-locking compound used on some parts prone to loosen with vibration.

Use two drops on the thread area of the parts listed below.

P-122 Short Roll Journal.

54-16 Stop Pins.

54-15A Swing Arm Axis Screws.

A thread locker is available for purchase. Part number 80101.

Do not use on P124 in-feed sprocket journal, or on P224, out-feed sprocket journal.

INSTRUCTIONS FOR REMOVAL OF FEED ROLLER

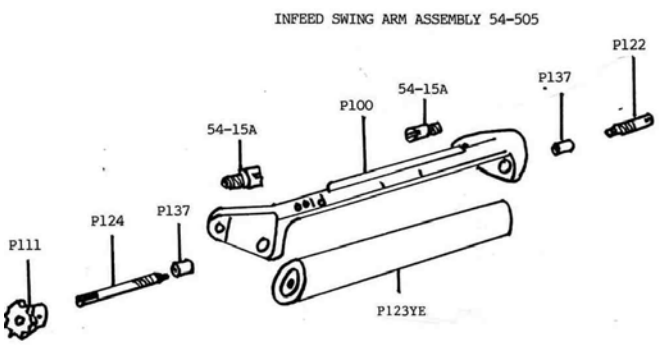
Unplug machine.
Take off chip deflector.
Raise head.
Remove **pressure screws** over swing arm to be removed.
Remove two 54-15A **axis screws** and remove swing arm, leaving chain connected to mating sprocket.
Reinstall each axis screw with a drop of *medium strength thread locker*.

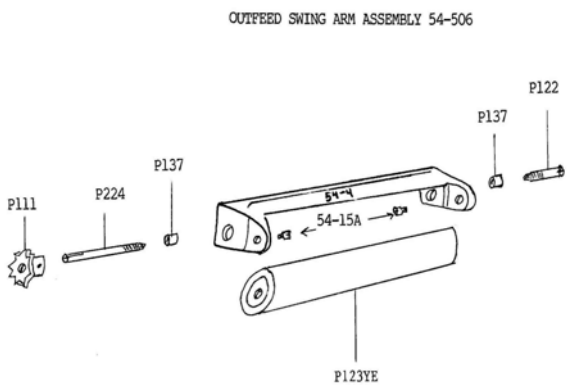
Take **P111 sprocket** off swing arm journal. Put **the feed roller in a vise**. Use a couple of small **adjustable wrenches** attached to the flat on the **long journal** to loosen it.

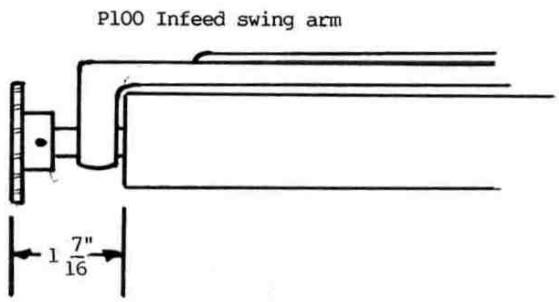
Put **a good square shank flat bladed screw driver** into the slot on the **short journal.** Push in as hard as you can while using a wrench on the square shank of the screw driver to loosen the short journal. Sometimes this journal will not come out. **Hack saw** it off if it won't. If you need **to save the roller**, pull the roller out of the swing arm by lifting it up and pulling it out with the short journal still in the roller. Reset the roller in a vise and **use a small pipe wrench** to remove it from the roller.

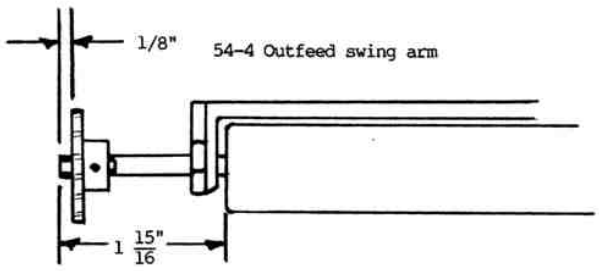
REASSEMBLY

The rollers are constructed with a shallow hole in one end and a deeper hole in the other.
The P122 always goes in the short end. **Reinstall the P122 parts with two drops of medium strength thread locker on the thread portion.**
The longer journal goes in the deeper end. See drawing for swing arm assembly with roller. Do not use *thread locker* on this longer journal.









REMOVAL OF POWER FEED UNIT

1) **Disconnect power**. Remove chip deflector and raise head 4”-5”.
2) Spin the arbor to find the set screw on the in-feed P111 chain sprocket on the underside of the chain guard. Using an 3/32” Allen wrench, loosen the set screw.
3) Starting with the bolts on the chain guard, remove the three hex head bolts attaching the power unit to the head.
4) Pull power unit free, removing the in-feed sprocket and chain at the same time. Remove the long chain once the unit is partially free of the head.

DISASSEMBLY OF THE GEAR BOX

1) Loosen set screws on P110 gear box mounted sprockets and pull them off the P209 drive shaft.
2) Remove P213 nylon bushing and P214 nylon washer.
3) Drain the oil.
4) Remove four socket head cap screws holding gear box onto the chain guard.
5) Tap on the two shafts with a soft hammer to separate the two housings.
6) Drive out 54-504 large bronze gear assembly from outside of the gear box with a ¼” pin punch. Watch for small spacer P127.
7) Drive out 1/8” dowel pin P143 joining upper P115 bearing support plug to gear box. Push out the plug with a screw driver from the inside of the gear box.
8) Remove 54-503 secondary shaft assembly (small bronze gear). Wiggle it out of its socket and remove it from the gear box through the open side of the gear box.
9) Remove the 54-502 primary shaft assembly (small worm and slotted end shaft).

INSTALLATION OF POWER FEED UNIT

1) Disconnect the power source to the machine. Remove any knives and bolts from the machine arbor. Please note that the gear box/chain guard assembly shall be referred to in these instructions as the power feed unit.

2) The P117 fiber drive should be in the end of the arbor. The out feed roller sprocket should be on its shaft. Both swing arms are installed and all four pressure screw assemblies should be in place.

3) The power feed unit should be fully assembled with the P213 nylon bushing on the P203 primary shaft (shaft with slot) and the P214 nylon washer up against the P213. Both P110 gear box mounted chain sprockets (sprockets with thin hubs) should be on the P209 drive shaft, with the thin hubs facing toward the chain guard. Leave a 1/32" gap between the innermost P110 and the chain guard P202 (longer feed unit casting). Tighten the set screws in each of the sprockets onto the flat on the P209 drive shaft.

4) Install the long chain on the driving sprocket closest to the P202 chain guard. Droop the chain over and under and the nylon bushing P213, and against the nylon washer P214.

5) Install the short chain over the outermost P110 gearbox mounted sprocket. Engage the P111 (which is not on its shaft yet), in the short chain with the hub facing the machine head and the set screw facing down for access later to tighten it.

6) With the attaching bolts nearby, pick up the power feed unit and first engage the long chain on its roller sprocket. Next, engage the in feed roller sprocket on its shaft and at the same time insert the primary shaft P203 into the end of the arbor with the slot straddling the P117 fiber drive. Install the three attaching bolts, tightening only the longest bolt.

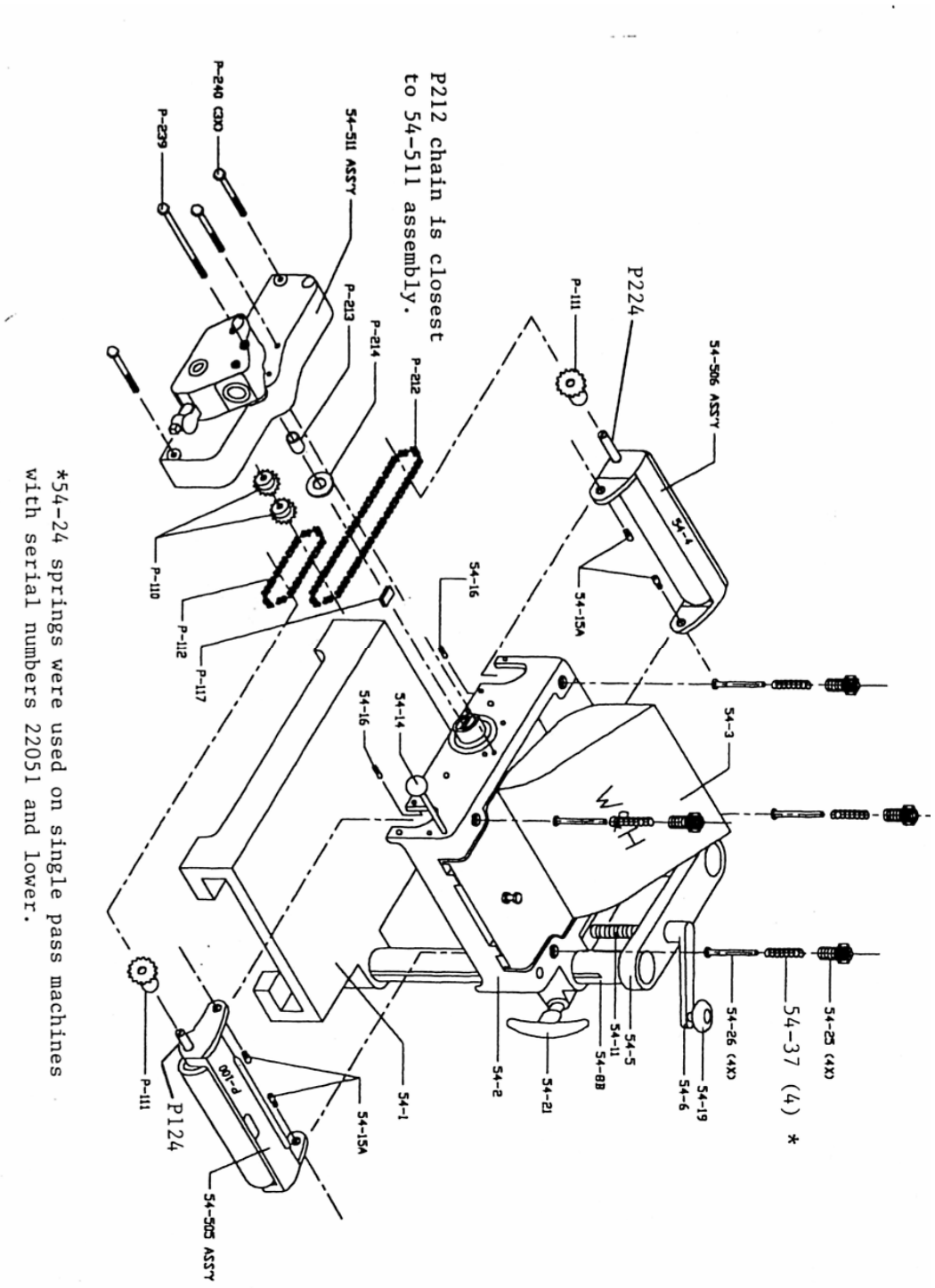
7) Tighten the in feed roller sprocket set screw on its shaft flat with the chain in a straight line position with its mating sprocket.

8) Check the oil level now in the gear box and fill as needed. It holds 2 oz.. Fill to 1/3 full on the oil cup.

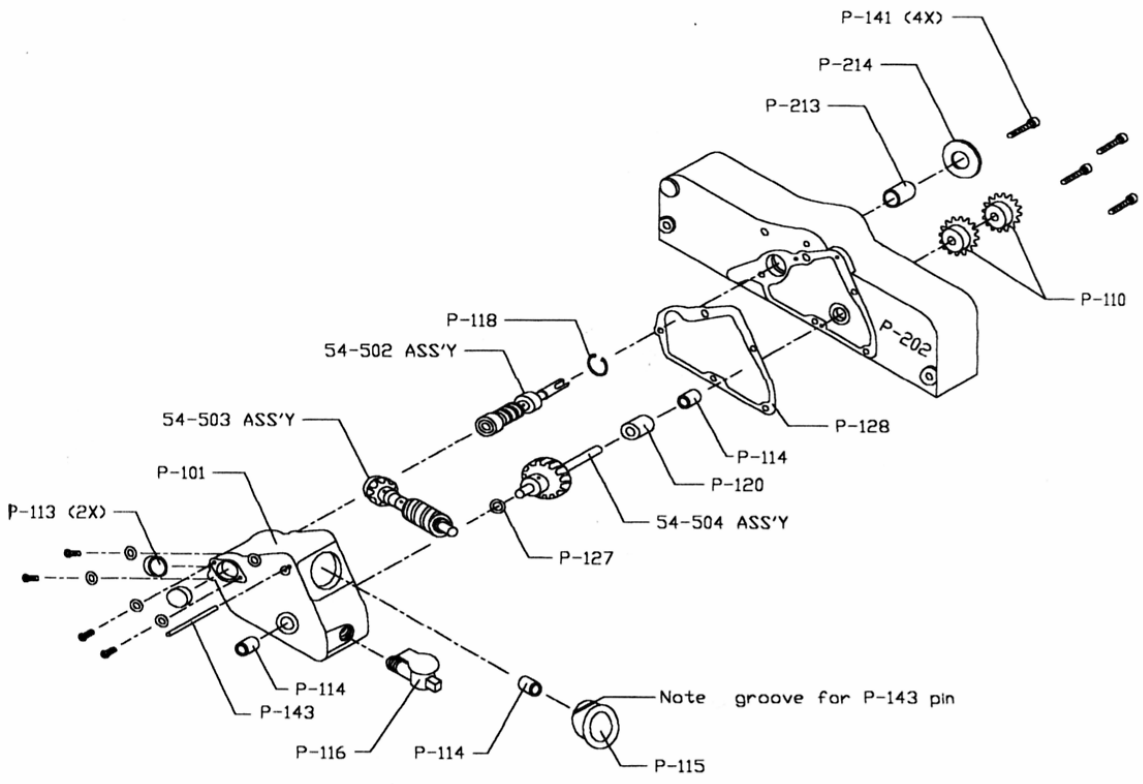
9) Install the chip deflector. Check to see that all belt guards are in place. Make sure all is clear inside the arbor area and around the machine.

10) Start the machine with the attaching bolt wrench ready to loosen the center bolt to make the final smooth running position check of the power feed unit. Move the unit around within the limits of the attaching bolt hole clearance and find the quietist running position. This will be when the primary shaft is most centrally located in the end of the arbor. When this position is found, tighten all three attaching bolts, starting with the central one.

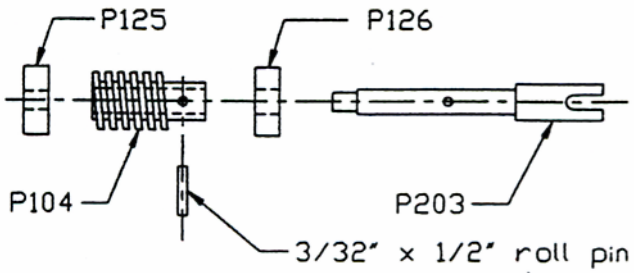
WHOLE MACHINE VIEW



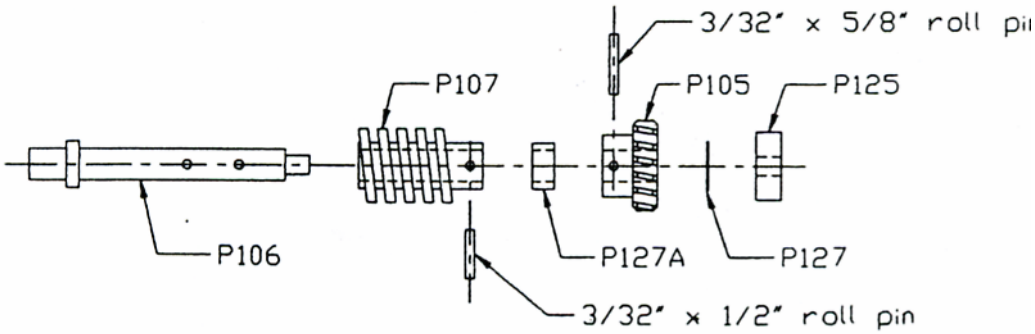
GEAR BOX ASSEMBLY VIEW



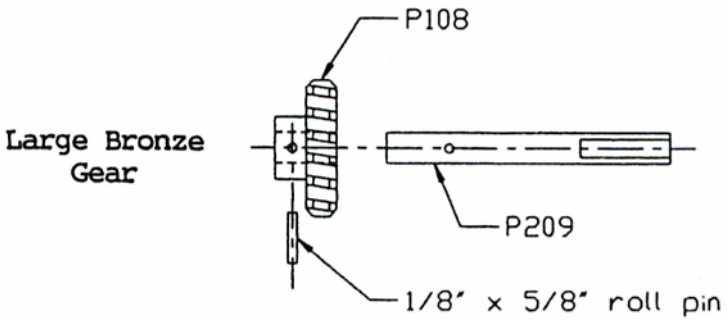
54-502 ASSEMBLY



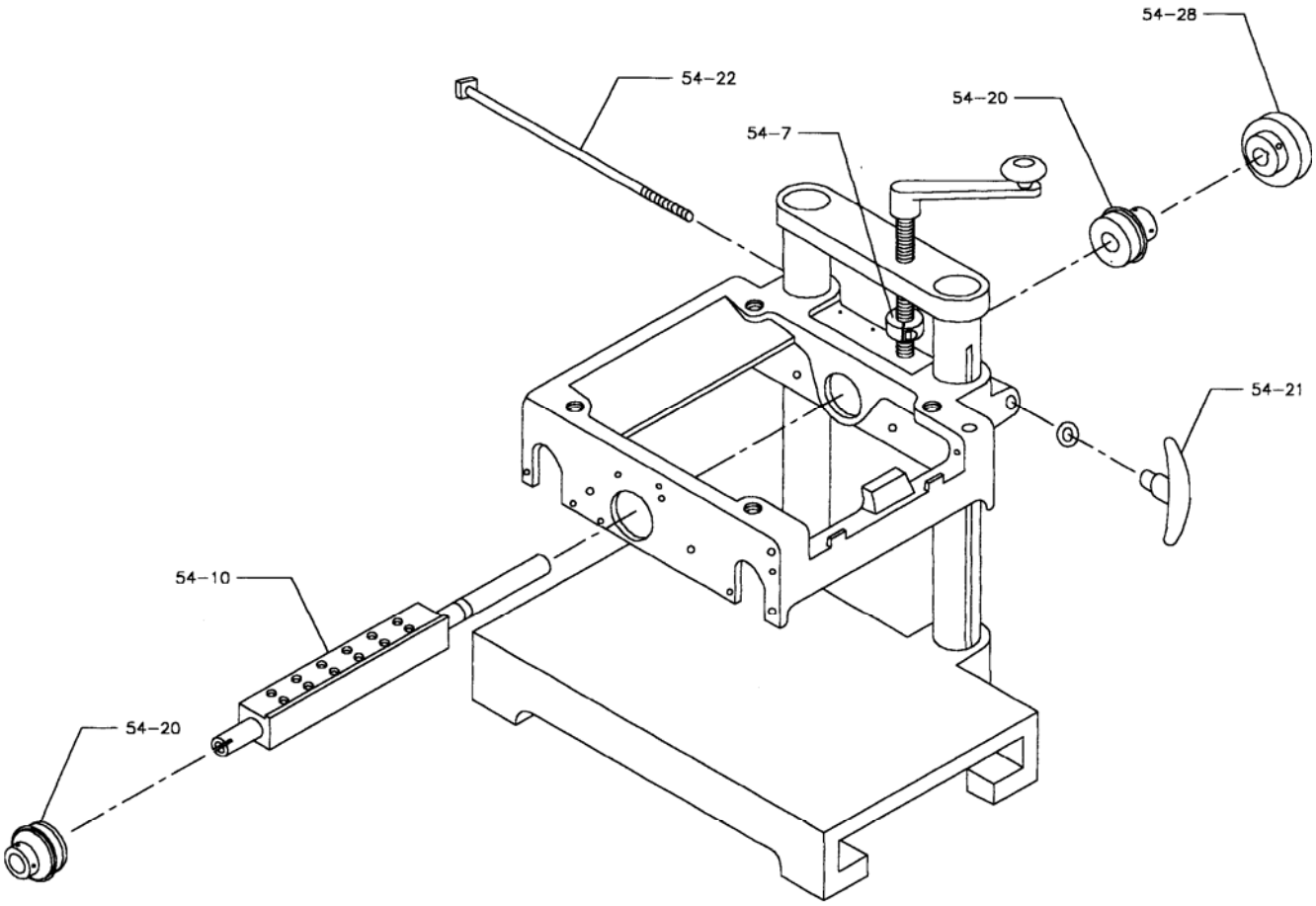
54-503 ASSEMBLY



54-504 ASSEMBLY



ARBOR REMOVAL VIEW



7 Year Limited Warranty

Williams & Hussey Machine Co., Inc. warrants this molder for a period of seven years from the original date of purchase.

This warranty **covers** any original parts that were improperly manufactured and any malfunctions due to improper original factory assembly of the molder.

The warranty **does not cover** damage due to; modifications, misuse, improper maintenance, normal wear, or wood jams.

If your machine fails during the warranty period, contact Williams & Hussey at **1 800 258 1380** for a return authorization. Once you receive your authorization to return your machine or a part of your machine you must return it to us with the freight **prepaid.** You must also include a **proof of purchase** with the machine.

The warranty does not extend to anyone except the first purchaser.

The warranties set forth above are in lieu of all other warranties expressed.

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